



Lesson – 13

A BRAVE HEART DEDICATED TO SCIENCE AND HUMANITY

NOTES:

SUMMARY:

History is full of extraordinary men and women who worked within great courage, commitment, dedication and singleness of purpose in their effort to attain what seemed to be unattainable. To name a few, Columbus, Vasco-Da-Gama, Robert Peary, Sir Ronald Ross, Hillary and Tenzing, Armstrong etc were driven by an indomitable spirit to uncover the truth and the mystery of the Universe. One such woman who dedicated her life to the cause of science and welfare of humanity is Madame Curie, the discoverer of radium. Born as Marja Sklowdaska in Warsaw, Poland on Nov 7, 1867, she came from a poor family and her father could not afford to send her to Paris to study science. So she took a job as a governess and finally went to Sorbonne, the University of Paris to study science. There she lived only on bread, butter, and tea so she often fainted for lack of food. In spite of all these she topped her class with Honours in Physics Mathematics. Then at the University she met a Frenchman Pierre Curie a brilliant but poor scientist. Their friendship turned into love and they were married in less than a year in 1895. After the birth of their daughter they set up a laboratory in a wooden shed near their flat. Marie was specially interested in a substance called Uranium which was obtained from a very expensive substance called pitchblende. Uranium was known to give off very powerful rays by which men could see through many substances. Marie discovered that after obtaining Uranium what was left was even more powerful. Two new substances giving off these rays were found but they could not obtain either of them. They called one as Polonium in honour of her country Poland and the other Radium. Radium is the most powerful of the radioactive elements which can penetrate substances that are opaque to light. Another French scientist Henri Becquerel had discovered in 1896 that uranium possessed this property but what Marie and Pierre discovered possessed radio active in much higher degree. The Curies began to work with greater enthusiasm but they were poor

and pitchblende an extremely expensive substance, they could not afford to buy large quantity. However with courage she faced all the miseries of a life of poverty and carried on her research along with her husband who love and supported her. Then the emperor of Austria who was an admirer of the Curies gifted a ton of pitchblende and they continued their work for four more years. Then in 1902 success finally come and that night their laboratory was filled with rays of soft, bluish purple light coming from the glass covered bowls. Radium was thus discovered. It was to become one of the wonders of the world. With its rays people would be able to see through the hardest of substance except lead. Radium is used with great effect in the treatment of cancer and bacteria of diseases like typhus, cholera, anthrax can also be killed by radium. In 1903, the Curies along with Henri Becquerel were awarded the Nobel prize for Physics for the discovery of radium and Polonium. In 1906, Pierre died and in 1911, Marie was again awarded the Nobel prize for chemistry. But she remained comparatively poor, refusing to patent their discovery and gave it free to the world to be used properly. Thus Madame Curie is one of those great and courageous person who pursue her life's goal with great strength of mind and is not defeated by extremely hostile and unfavourable conditions of life.

WORD MEANINGS:

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| 1. Indomitable | - | not willing to accept defeat. |
| 2. Governess | - | a woman employed to teach the children of a rich family in their home and to live with them. |
| 3. Fainted | - | lost consciousness |
| 4. Pitchblende | - | a black radio-active mineral. |
| 5. Opaque | - | not allowing light to pass through. |
| 6. Enthusiasm | - | a feeling of great interest. |
| 7. Shabby | - | old and in poor condition. |
| 8. Smock | - | a long loose clothing worn over other clothes to protect them from dirt. |
| 9. Patented | - | obtained the right to make or sell a product or an invention. |
| 10. Disconsolate | - | not to be comforted. |